REMARKS

The Official Action mailed December 15, 2006, has been received and its contents carefully noted. This response is filed within three months of the mailing date of the Official Action and therefore is believed to be timely without extension of time. Filed concurrently herewith is a *Request for Continued Examination*. Accordingly, the Applicant respectfully submits that this response is being timely filed.

The Applicant notes with appreciation the consideration of the Information Disclosure Statement filed on March 25, 2004.

The Official Action asserts that claims 1-24 are pending in the present application prior to the above amendment (Office Action Summary, Paper No. 1205). However, dependent claims 25-28 were added in the *Amendment* filed September 30, 2005 (received by OIPE October 3, 2005). Therefore, claims 1-28 were pending in the present application prior to the above amendment. Claims 7, 10, 13, 16 and 25-28 have been amended to better recite the features of the present invention, and new dependent claims 29-32 have been added to recite additional protection to which the Applicant is entitled. Claims 1-6 and 19-24 have been withdrawn from consideration by the Examiner (Office Action Summary, Paper Nos. 0605 and 1205). Accordingly, claims 7-18 and 25-32 are currently elected, of which claims 7, 10, 13 and 16 are independent. For the reasons set forth in detail below, all claims are believed to be in condition for allowance. Favorable reconsideration is requested.

The Official Action rejects claims 7-12 as obvious based on the combination of U.S. Patent No. 6,057,183 to Koyama et al., U.S. Patent No. 6,127,857 to Ogawa et al, U.S. Patent No. 4,929,884 to Bird et al. and U.S. Patent No. 6,087,245 to Yamazaki et al. or U.S. Patent No. 6,077,758 to Zhang et al. The Official Action rejects claims 13-18 as obvious based on the combination of Koyama, Ogawa, Bird, Yamazaki or Zhang and U.S. Patent No. 5,949,271 to Fujikura.

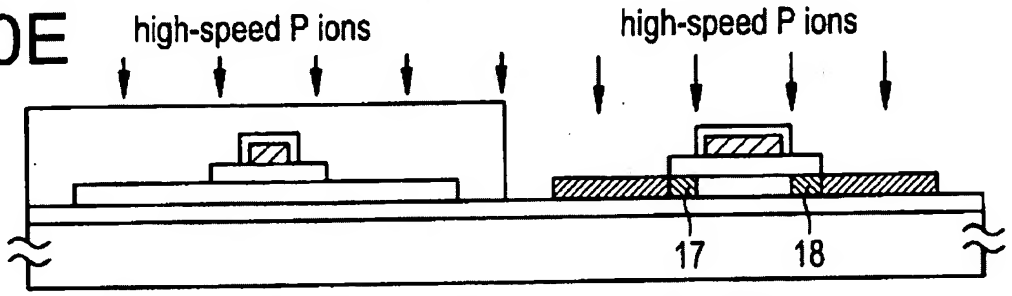
The Applicant respectfully submits that a *prima facie* case of obviousness cannot be maintained against the independent claims of the present application, as amended.

As stated in MPEP §§ 2142-2143.01, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The prior art, either alone or in combination, does not teach or suggest all the features of the independent claims, as amended. Independent claims 7, 10, 13 and 16 have been amended to recite that an impurity is doped to a channel forming region at a concentration of 5×10^{12} to 5×10^{14} atoms/cm^2, which is supported in the specification, for example, at page 5, lines 15-21. The claims have also been amended to remove features which are not believed to be critical to the patentability of the claims. Specifically, the recitation of "a metal element which is capable of promoting the crystallization of a semiconductor film" has been moved to dependent claims 25-28 and the recitation of "the metal element is nickel" has been moved to new dependent claims 29-32. Koyama, Ogawa, Bird, Yamazaki or Zhang and Fujikura, either alone or in combination, do not teach or suggest the above-referenced features of the present invention.

Although Koyama teaches ion doping, where the dose is 1×10^{13} to 5×10^{14} cm^{-2} (column 5, lines 44-51), this teaching relates to low-concentration N-channel regions 17 and 18 as shown in Figure 10(E) (reproduced below).

FIG. 10E



The channel forming region in Koyama corresponds to a region between low-concentration N-channel regions 17 and 18. Due to the gate electrode and barrier-type anodic oxide film covering the gate electrode, the channel forming region in Koyama is not and cannot be doped during the step disclosed at column 5, lines 44-51. Therefore, Koyama does not teach or suggest that an impurity is doped to a channel forming region at a concentration of 5×10^{12} to 5×10^{14} atoms/cm^2.

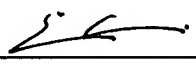
Ogawa, Bird, Yamazaki or Zhang and Fujikura do not cure the deficiencies in Koyama. The Official Action relies on Ogawa to allegedly teach "the use of depletion-mode FETs" (page 2, Paper No. 1205), on Bird to allegedly teach "the use of depletion-mode MOSFETs" (Id.), on Yamazaki or Zhang to allegedly teach "a metal element capable of promoting crystallization" (page 3, Id.) and on Fujikura to allegedly teach "the shift register circuit or buffer circuit including a bootstrap circuit including thin film transistors" (page 4, Id.). However, Koyama, Ogawa, Bird, Yamazaki or Zhang and Fujikura, either alone or in combination, do not teach or suggest that an impurity is doped to a channel forming region at a concentration of 5×10^{12} to 5×10^{14} atoms/cm^2.

Since Koyama, Ogawa, Bird, Yamazaki or Zhang and Fujikura do not teach or suggest all the claim limitations, a *prima facie* case of obviousness cannot be maintained. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

New dependent claims 29-32 have been added to recite additional protection to which the Applicant is entitled. For the reasons stated above and already of record, the Applicant respectfully submits that new claims 29-32 are in condition for allowance.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,



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